

CLAIMS:

1. A silica glass substrate obtained by polishing, cleaning, drying and etching a silica glass substrate slice,  
5 said substrate having a pair of major surfaces and a thickness therebetween, in which when the substrate is treated with a reactive reagent, defects having a size of at least 0.3  $\mu\text{m}$  in a direction parallel to the substrate major surface are absent on the substrate surface.  
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2. The silica glass substrate of claim 1 wherein in the etching step, the silica glass substrate slice is etched away in an amount of 0.2 to 0.5  $\mu\text{m}$  in a thickness direction thereof.  
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3. The silica glass substrate of claim 1 wherein the reactive reagent is an acidic or alkaline reagent.
4. A method for selecting silica glass substrates,  
20 comprising the steps of polishing, cleaning, drying and etching silica glass substrate slices to form silica glass substrates, and inspecting the substrates for surface defects, thereby selecting those substrates on a surface of which defects having a size of at least 0.3  $\mu\text{m}$  in a  
25 direction parallel to the substrate major surface are absent.